

SOME NEW SPECIES OF *HETEROCERA*.

BY THE HON. WALTER ROTHSCHILD.

(Pl. VII.)

SPHINGIDAE.

1. *Sphinx arthuri* sp. nov. (Pl. VII. fig. 1).

♂. *Forewings*: pale grey, strongly sprinkled with orange and black scales, giving a decided olive tinge. An indistinct stigma on the discocellulars, from which a faint dark streak runs into the cell. Across the disc of the wing runs an indistinct zigzag transverse line, from which horizontally proceed two dark lines about 5 mm. long between veins 2 and 4.

Hindwings: black, crossed by two bands of pearl-grey 3 mm. wide: outer margin suffused with grey scales: fringe creamy white.

Underside: as above, but more uniform grey.

Head and thorax like upperside of forewing; abdomen dark grey, with five black and five light grey lateral spots placed alternately; underside of abdomen whitish grey, with a median row of small black dashes.

Expanse: forewing, length 52 mm.; width 19 mm.

„ hindwing, „ 32 „

Hab. La Paz, Bolivia (caught at electric light); 1 ♂.

Named after Mr. Arthur Maxwell Stuart.

2. *Daphnis dohertyi* sp. nov.

♂. Closely allied to *D. hypothous* and *magnifica*, but easily distinguished from both by the very differently shaped discal dark green area. The basal edge of this patch is straight; the outer edge is deeply sinuate between veins 4 and 5, this sinus filled up with white; in front of the sinus the patch measures only 7 mm. in width, and between veins 2 and 3 only 2 mm. The pale line situated between the dark green patch and the apex of the wing is very strongly curved between veins 4 and 5, the line reaching vein 4 at a distance of 7 mm. from the outer margin; the space between this line and the discal patch is partly scaled white, especially close to the dark green patch. The cellule between veins 3 and 4 is, in *hypothous* and *magnifica*, olive-green or dark green, except a trapezoidal submarginal spot of fawn-colour; in *dohertyi* this latter spot is much enlarged and almost ceru-drab. Hindwing more reddish than in the allied species.

Underside: as in *hypothous*, the three discal brown lines of the forewing more prominent: hindwing with two white dots at costal margin.

Hab. Kapaur, Dutch S.W. New Guinea, December 1896 (W. Doherty); 1 ♂.

COSSIDAE.

3. *Xyleutes donovani* sp. nov. (Pl. VII. fig. 2).

♂. *Upperside*: forewing without the yellowish tint which is present in *X. lituratus* Don., the nearest ally of *donovani*; costal margin with about twenty

black spots, which become smaller and scarcer towards the apex of the wing ; before middle of cell there is an ill-defined black patch which penetrates into the cell ; another, smaller, patch midway between the first and the apex of the cell ; outside the second patch a black dot ; a submarginal row of elongate black patches between veins 2 and 8, the posterior one the longest ; hinder margin with transverse black lines, about six to eight in basal half, twelve to fourteen in outer half, the latter lines either connected with one another by means of two irregular longitudinal lines, or more or less merged together ; behind the middle of vein 1c, where there stands a black stripe in *lituratus*, is a space bare of black lines ; outside this white patch is an elongate black mark of 3 mm. length and 1 mm. breadth ; upper half of cell with very few minute black linear spots ; all the cellules with black transverse irregular lines, fewer in number than in *lituratus*, mostly joined to each other along the middle line of the cellules ; end of veins with square blackish brown spots.

Hindwing nearly as in *lituratus* ; abdominal margin, especially at anal angle, more extended white ; black network of lines less dense, with square blackish brown spots at the ends of the veins.

Underside : similar to upperside, but disc of forewing brown, and the blackish brown areas present on the upperside of the hindwing between cell and hinder margin and between cell and apex of wing less strongly marked.

Antennae scaled white above, twenty-seven joints with lateral branches, forty joints simple ; branches blackish, fine hairs of underside grey (in *lituratus* about forty-five joints have lateral processes, and forty joints are simple ; fine hairs of underside of branches with a yellowish tint). Head greyish white (in fresh specimens of *lituratus* ochraceous), black close to the eyes and at anterior margin. Prothorax and patagia grey, densely mixed with brown ; mesothorax whitish laterally, with two black bands bordering a pale brown median area ; no white median line. Abdomen much more grey than in *lituratus*. Breast, underside of abdomen, and legs white ; anterior coxae, upperside of anterior tibiae, part of middle tibiae, and all the tarsi brown, the latter obviously ringed white.

♀. Resembles the ♂, but the white discal spaces of the forewing are much overpowdered with black scales, and the black costal patches are more extended. Hindwing brown all over, except costal region as far as covered by forewing ; anal margin and interspaces between the very prominent brown square spots at the ends of the veins whitish grey. Sides of mesothorax darker than in ♂ ; abdomen scaled grey and brown.

Varies in size like *lituratus*. The posterior angle of the forewing is somewhat less rounded than in *lituratus*, and the hindwing is slightly narrower.

Hab. Brisbane district, Queensland ; a good series of both sexes.

This species is often confounded with *lituratus* in collections.

4. *Xyleutes pulchra* Rothsch. (Pl. VII. fig. 3, ♂ ; 4, ♀).

This species I described from the *female* in Nov. Zool. III. p. 232 (1896). I have now received a small *male* which has been obtained, together with several ♀♀, out of the same kind of tree. This *male* differs, as the figures show, from the ♀ especially in the absence of the discal patch of black spots from the forewing and in the darker hindwing and abdomen. The *male* antennae consist of about sixty joints, of which the last thirty are devoid of lateral processes.

Hab. Brisbane district, Queensland ; the *male* bred November 1896.

SATURNIIDAE.

5. *Ceranchia ansorgei* sp. nov. (Pl. VII. fig. 5).

♂. *Upperside*: forewing hair-brown, with a slight tint of eern-drab in costal region; just before middle of wing there is an almost straight transverse white band, expanded between costal and inner margin, faintly curved behind, and slightly edged with yellow basally; width of band $2\frac{1}{2}$ mm.; a second band runs, in a slight curve, from the costal margin, where it begins 5 mm. short of the apex, to the end of vein 2, gradually tapering off behind; the anterior portion of the band is bordered outwardly by a brick-red line: upon the discocellars there is a small eye-spot, 2 mm. in diameter, consisting of a yellow, a black, and a white ring surrounding a black centre.

Hindwing white from base to apex of cell, gradually becoming dark greyish drab: a submarginal white band similar to that of the forewing, edged outwardly with pale yellow; a small black spot at end of cell.

Underside: forewing dark greyish drab, white towards base: median band not distinctly marked; outer band as above; outer two rings of eye-spot absent. Hindwing as above, but costal region dark greyish drab to near base, the white colour thus being restricted to a large patch extending from base to apex of cell, bordered anteriorly by the subcostal nervure; stigma bordered with white; submarginal band as above.

Head, underside of abdomen and legs drab-colour; legs faintly yellowish; pronotum, sides of sterna and abdomen white; meso- and metanotum and upperside of abdomen greyish drab.

Length: forewing 40 mm., hindwing 29 mm.

Hab. Kiboko River, Uganda Protectorate, November 5th, 1896 (Dr. I. W. Ansorge); 1♂.

Differs from *C. mollis* Butl., its nearest ally, especially in the presence of the submarginal white band on both wings.

CHALCOSHIDAE.

6. *Chalcosia* (?) *albomedia* sp. nov. (Pl. VII. fig. 6).

♀. *Upperside*: forewing black, with a slight metallic green gloss at the base; a longitudinal band running from the base to beyond the apex of the cell, where it is widest, white; the band is constricted at its basal third. Hindwing white; outer margin bordered with black; at the inner edge of this border there are bluish green scales, especially between veins 3 and 6 and at the anal angle; abdominal margin of wing with black and metallic bluish green scales; base with black hairs.

Underside: forewing metallic blue-green except outer fourth; white median band reduced in length, basal third wanting, rest of band separated into two patches by means of a transverse bar in the middle of the cell. Hindwing bluish green at the base, abdominal margin, and edge of the white area; black outer border narrower behind than it is above.

Head and end of abdomen ochraceous; prothorax, front part of mesothorax, and a dot near hind edge of mesothorax white; rest of body bluish green.

Forewing: length 31 mm., breadth 15 mm.

Hindwing: „ 24 „ „ 16 „

Hab. Kapaur, Dutch S.W. New Guinea, January 1897 (W. Doherty); 1 ♀ at low altitude.

This species does not fit in any of the genera of *Chalcosiidae* hitherto erected. The scales of the wing are very long compared with those of other *Chalcosiids*, those of the prothorax and patagia are hairlike. In venation the insect agrees best with *Pompelion*, veins 2 to 6 being free, 7 being stalked [with 8 and 9, and 11 anastomosing shortly with 12; the veins 2 to 7 of the hindwing originate from the cell. The branches of the joints of the antennae become gradually, but considerably, shorter towards the apex.

AGARISTIDAE.

7. *Episteme sumbana* sp. nov.

♂. Closely resembling *E. adulatrix* from North India. Forewing narrower, median band broadest at the submedian nervure; series of white spots in outer half of wing situated closer to the cell than in *adulatrix*, the three anterior spots of this row elongate, twice as long as in *adulatrix*. Hindwing above with a row of six white spots, of which the third and fourth are situate 1 mm. from the apex of the cell; two small orpiment-orange spots near anal angle.

Underside: as above, the white spots in outer half of wings larger.

Head, palpi, and prothorax as in *adulatrix*; patagia as in *nigripennis* from Ceylon: abdominal segments 5, 6, and 7 with orpiment-orange scales beneath and on the sides.

Hab. Sumba, December 1896 (A. Everett); 1 ♂.

The occurrence of this insect on the island of Sumba is very remarkable, as hitherto no representative of *E. adulatrix* has been found in the Malayan Subregion, the various forms of *adulatrix* being restricted to Continental India and Ceylon.

8. *Mimeusemia lombokensis* sp. nov. (Pl. VII. fig. 7).

♂. *Upperside*: forewing black, with some dispersed yellowish scales: a triangular mark at base of cell, a transverse bar beyond middle of cell, and a straight, anteriorly narrowed, band beyond apex of cell, extending from areole to vein 2, measuring $2\frac{1}{2}$ mm. in width at vein 3, cream-yellow; two basal spots before costal nervure, a spot in middle of cell, a line upon the discocellulars, and two transverse lines behind cell, metallic blue; fringe at apex of wing white. Hindwing bright cadmium-yellow, costal and outer region black: this black border fills the costal and subcostal interspaces, and measures 5 mm. at vein 6, $3\frac{1}{2}$ mm. at vein 2; base of wing dusted over with black scales; fringe at apex of wing white.

Underside: forewing nearly as above: the creamy markings a little more extended and paler. Hindwing with the yellow area not dusted over with black at the base: costal black border narrow at base, then dilated so as to touch the anterior angle of the cell, and again sinuate.

First joint of palpi cream-colour: second black, sides cream-colour; third black, with very few creamy scales. Head black, cream-colour at the sides and behind the eyes. Thorax covered with a mixture of olive-yellow and black, hairlike, scales. Abdomen bright cadmium-yellow, middle of basal segments metallic black. Underside cadmium-yellow, abdomen brighter; tarsi black above, with the tips of the joints white.

♀. Like the *male*, but the basal creamy mark of the forewing is absent.

Hab. Sapit, Lombok, 2000 feet, May and June 1896 (H. Fruhstorfer):
4 ♂♂, 3 ♀♀.

The specimens vary slightly *inter se* in the size of the markings of the forewing. This species agrees structurally closely with *M. peshwa* (from India) and allies.

9. *Mimeusemia puciolia* (Druce).

Agarista puciolia Druce, *Ann. Mag. N. H.* (6). XV. p. 42 (1895) (Philippine Is. *ex err.!*).

Mimeusemia fruhstorferi Rothschild, *Nov. Zool.* IV. p. 183. n. 7 (1897) (S. Celebes).

The *habitat* "Philippine Islands" as given in the description of *puciolia* is stated by mistake; the type-specimen bears the label "Minal., Plat.," which means Minalhassa, North Celebes (Platen). It is a Staudingerian specimen. The differences between *puciolia* and *fruhstorferi* are very slight; *puciolia* has, in fact, all the characters mentioned in my description of *fruhstorferi* and not mentioned in the description of *puciolia*, except that it is smaller. The two specimens represent perhaps a northern and a southern subspecies of the same species; but this can only be decided on receipt of more material. For the present it is best to sink *fruhstorferi* as a synonym.

10. *Phalaenoides restrictus* sp. nov. (Pl. VII. fig. 8).

♂. The representative form of *Ph. megisto* Boisd., from which it differs as follows:—

Upperside: forewing with a very strong blue metallic gloss, except in outer third; a transverse band before middle of cell as in *megisto*, but only half the width, a spot beyond middle of cell, and a discal ovate patch, pointed at both ends, reaching from vein 6 to the submedian nervure, a streak upon the inner margin at the base, and nervules in outer region of wing, white. Hindwing as in *megisto*, but more metallic blue.

Underside: forewing with the spot in the apex of the cell and the discal patch as above, the latter larger. Tibiae darker than in *megisto*, more metallic; foretibiae without yellow hairs. Second joint of palpi with very few black scales above.

Hab. Kinigunang, New Pommern (Carl Ribbe); 1 ♂.

11. *Aegocera ansorgei* sp. nov. (Pl. VII. fig. 9).

♂. Closely allied to *A. menete* Cram., but has a narrower and differently marked forewing. The longitudinal band beyond the cell is narrower than in *menete*; it is separated into four portions—a basal spot, two elongate markings of 5 and 4½ mm. length respectively, and a transverse small spot; the outer mark of *menete* is wanting. Besides the almost rectangular spot in the apex of the cell there is a rounded mark before the middle of the cell; two faint transverse lines in middle of cell, and a third at apex of cell creamy buff like the other markings. Transverse band beyond apex of cell narrow, forming a very blunt angle at vein 5; outside this band, which reaches as far as vein 3, there is a short costal band and a complete submarginal band of creamy buff scales. Costal and inner margins dusted

over with creamy buff scales. Nervules close to the fringe with metallic scales; the metallic spots in the cell and on the disc are very pale, and much less prominent than in *menete*. Hindwing as in *rubida* Feld., but the border and the central spot deeper in colour. Abdomen as in *menete*. The antennae are as thick towards the apex as in *A. obliqua* Mab.

Hab. Muani, Uganda Protectorate, November 11th, 1896 (Dr. I. W. Ansorge); 1 ♂.

Named in honour of the collector.

12. *Crinala floresiana* sp. nov.

♂ ♀. *Upperside*: both wings black, with a strong metallic blue gloss in side light. Forewing with a spot before costal nervure near base, an oblique streak beyond cell, a short bar in middle of cell, and a line at the apex of cell plumbaginous blue. Ciliae of both wings white, extreme edge of outer margins also white, the white scaling a little more extended at apex of forewing.

Underside of forewing with an indistinct transverse short line outside the apex of the cell, composed of ochreous scales.

Body black, with metallic blue gloss. Head with some scales behind eyes, two spots in front of the antennae, and frontal margin white. First and second joints of palpi scaled white beneath. Anterior coxae, part of collar, and end of abdomen bright orange in ♂, orpiment-orange in ♀.

Agrees in colour almost exactly with *Scrobigeru abomarginata*; but the neuration is as in *Crinala*, except that vein 10 of the forewing is very shortly stalked with 8 and 9 in ♀, while in ♂ it arises from the areole. Hindwing of ♂ without the longitudinal fold present in *Scrobigeru*; abdominal region only hairy.

Length of forewing: ♂, 25 mm.: ♀, 30 mm.

Hab. South Flores, October and November 1896 (A. Everett): 1 ♂, 1 ♀.

13. *Copidryas marginalis* sp. nov. (Pl. VII. fig. 10).

♂. *Upperside*: forewing dark brown; costal region creamy buff, overpowdered with brown scales; this creamy buff area is dilated midway between base and vein 2, forming an acute angle behind cell; from here to the upper angle of the cell it is gradually narrowed, and then dilated again; its outer edge is nearly parallel to the outer margin of the wing. Hindwing chrome-yellow, with a black border all round (except base); this border is 5 mm. wide at vein 7, 1½ mm. at vein 2, and 3½ mm. at anal angle.

Underside: forewing blackish brown; a large triangular basal patch, 3½ mm. broad at apex and 6 mm. long, and a broad band outside the cell, extending from costa to outer margin, reaching the latter between veins 1b and 3, about 4 mm. wide, chrome-yellow. Hindwing as above.

Head and underside of palpi, middle line of thorax, underside of thorax, and legs grey; upperside of palpi and sides of thorax above brown. Abdomen nearly black, somewhat greyish towards the tip. Front of head with a prominent, obliquely truncate cone.

Forewing: length, 20 mm.; breadth, 9 mm.

Hab. Espirito Santo, Brazil; 1 ♂.

GEOMETRIDAE.

14. *Milonia dohertyi* sp. nov. (Pl. VII. fig. 11).

♂. Closely allied to *M. elegans*, Nov. Zool. II. p. 498. t. vii. f. 1. 2 (1895), but wings and body much less metallic blue. Median band of forewing nearly as in *elegans*, somewhat rounded at both ends; the subapical band is twice as broad as in *elegans*, consisting of three spots, of which the middle one is 5 mm. long; a small white mark near hinder angle, as in *elegans*.

Hindwing black, with a very large pale ochre-yellow area extending from hinder margin, where it measures 11 mm. in width, to vein 7: its outer edge rufous red; a faint black spot at the end of the cell.

Underside: as above, but hindwing with a more distinct black dot upon the discocellulars, and black outer border of hindwing dilated behind vein 2. Abdomen paler yellow (? faded) than in *elegans*: middle segments yellow also beneath, edged with black.

Hab. Kapanr, Dutch S.W. New Guinea, January and February 1897 (W. Doherty); 2 ♂♂, at low elevation.

TWO NEW SPECIES OF BUTTERFLIES IN THE TRING MUSEUM.

By H. GROSE SMITH, B.A., F.E.S., F.Z.S., etc.

1. *Tenaris mailua* sp. nov.

♂. *Upperside*: both wings dark fuliginous grey. Anterior wings crossed obliquely beyond the cell by a large subapical diffused white patch, the white area not extending over the subcostal nervules anteriorly, or quite reaching the outer margin posteriorly. Posterior wings with a large diffused yellowish white patch from near the base, extending over the cell and the lower part of the disc, but not quite reaching the outer and abdominal margins, which are dark fuliginous grey; between the two lowest median nervules is a small ocellus with a pale violet pupil and a bright fulvous outer ring.

Underside: darker and brighter than on the upperside. On the posterior wings are two very bright ocelli with broad fulvous outer rings; the lower ocellus is larger than on the upperside, and the pupil, which is white, is surrounded by a ring of violet scales.

Antennae black; palpi and abdomen fulvous.

♀ resembles the ♂, but on the upperside the white areas on both wings are rather more extended, and the ocellus on the posterior wings of the ♂ is absent.

Expanse of wings: ♂, 3 inches; ♀, 3½ inches.

Hab. Mailu, British New Guinea (Anthony, July 1895).

Nearest to *T. anableps* Voll. and *T. uranus* Stgr., but the position and extent (on the posterior wings) of the white patches readily separate it from these species.

Described from two ♂ and two ♀ specimens.

2. *Thysonotis phroso* sp. nov.

♀. *Upperside*: anterior wings with the base, costal margin, and apical third greyish black, the black area extending rather broadly down the outer margin to